

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of :  
:   
Samuel I. STUPP et al. :   
:   
Serial No. 10/534,266 : Group Art Unit: 1654  
:   
Filed: October 13, 2005 : Examiner: David Lukton

For: SYNTHESIS AND SELF-ASSEMBLY OF ABC TRIBLOCK BOLA PEPTIDE

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT  
AND CERTIFICATION STATEMENT**

Honorable Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the documents listed on the attached form PTO/SB/08a. It is respectfully requested that the documents be expressly considered during the prosecution of this application, and that the documents be made of record therein and appear among the "References Cited" on any patent to issue therefrom. Copies of any cited U.S. Patents, U.S. Patent Publications, and PCT Publications are not being submitted in accordance with 37 CFR 1.98(a)(2)(i).

The undersigned certifies that Item No. 17 of the Non-Patent Literature Documents section contained in the Information Disclosure Statement was first cited in a communication from the European Patent Office in a foreign application counterpart to a related application not more than three months prior to the filing of the Information Disclosure Statement. See 37 CFR 1.97(e)(1).

The undersigned further certifies that no additional items of information, aside from Item No. 17, contained in the Information Disclosure Statement were cited in a communication from a

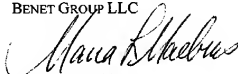
foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the Information Disclosure Statement. See 37 CFR 1.97(e)(2). The items were, however, cited by Examiners in Notices of References Cited with Office Actions issued in related applications.

In accordance with 37 C.F.R. § 1.97(g) and (h), the filing of this IDS should not be construed as a representation that a search had been made or that information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item, and Applicant reserves the right to prove that the date of publication is in fact different.

This Information Disclosure Statement is being filed with the appropriate certification, and therefore, no fee is believed to be required.

Respectfully submitted,

BENET GROUP LLC



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Date: 12 APRIL 2007

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
(Not for submission under 37 CFR 1.99)

Application Number	10534266	
Filing Date	2005-10-13	
First Named Inventor	Samuel I. STUPP et al.	
Art Unit	1654	
Examiner Name	David Lukton	
Attorney Docket Number	NANO 107 US2 (NU 22082)	

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

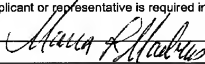
**OR**

- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- ☒ See attached certification statement.
- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☐ None

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature		Date (YYYY-MM-DD)	2007-04-12
Name/Print	Maria L. Maebius	Registration Number	42,967

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> ( Not for submission under 37 CFR 1.99)	Application Number		10534266
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	Art Unit	1654	
	Examiner Name	David Lukton	
	Attorney Docket Number	NANO 107 US2 (NU 22092)	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code <sup>1</sup>	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	5871767		1999-02-16	Dionne et al.	
	2	6156321		2000-12-05	Thorpe et al.	
	3	6270765	B1	2001-08-07	Deo et al.	
	4	6548048	B1	2003-04-15	Cuthbertson et al.	
	5	6855329	B1	2005-02-15	Shakesheff et al.	

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U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code <sup>1</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20050214257	A1	2005-09-29	Zhao et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS						
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Examiner Initial*	Cite No	Foreign Document Number <sup>3</sup>	Country Code <sup>2</sup> j	Kind Code <sup>4</sup>	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
	1	99/36107	WO		1999-07-22	Shakesheff et al.		<input type="checkbox"/>

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**NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>5</sup>
	1	Nomizu, Motoyoshi, Atsushi Utani, Norio Shiraishi, Maura C. Kibbey, Yoshihiko Yamada, and Peter P. Rotler. July 15, 1992. "The All-D-Configuration Segment Containing the IKVAV Sequence of Laminin A Chain Has Similar Activities to the All-L-Peptide in Vitro and in Vivo." The Journal of Biological Chemistry. Vol. 267, No. 20, pp. 14118-14121.	<input type="checkbox"/>
	2	Margomenou-Leonidopoulou, G. 1994. "Thermotropic Mesophases of Ionic Amphiphiles. II. Ionic Amphiphiles in Aqueous Media." Journal of Thermal Analysis. Vol. 42, pp. 1041-1061.	<input type="checkbox"/>
	3	Rappolt, Michael and Gert Rapp. 1996. "Structure of the Stable and Metastable Ripple Phase of Dipalmitoylphosphatidylcholine." Eur. Biophys. J. Vol. 24, pp. 381-386.	<input type="checkbox"/>
	4	Goveas, J. L. and S. T. Milner. 1997. "Dynamics of the Lamellar—Cylindrical Transition in Weakly Segregated Diblock Copolymer Melts." Macromolecules. Vol. 30, No. 9, pp. 2605-2612.	<input type="checkbox"/>
	5	Munson, John B. and Stephen B. McMahon. 1997. "Effects of GDNF on Axotomized Sensory and Motor Neurons in Adult Rats." European Journal of Neuroscience. Vol. 9, pp. 1126-1129.	<input type="checkbox"/>
	6	Fernandez, A., M. A. Alsina, I. Haro, R. Galantal, and F. Reig. 1998. "Synthesis and Physicochemical Characterization of Cyclic Laminin Related Peptides." Langmuir. Vol. 14, No. 13, pp. 3625-3630.	<input type="checkbox"/>
	7	Yagi, Nobuhiro, Yoshikatsu Ogawa, Masato Kodaka, Tomoko Okada, Takenori Tomohiro, Takeo Konakahara, and Hiroaki Okuno. 1999. "A Surface-Modified Functional Liposome Capable of Binding to Cell Membranes." Chem. Commun. Pp. 1687-1688.	<input type="checkbox"/>

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8	Luo, Yi and Glenn D. Prestwich. 2001. "Novel Biomaterials for Drug Delivery." Expert Opin. Ther. Patents. Vol. 11, No. 9, pp. 1395-1410.	<input type="checkbox"/>
9	Marchi-Artzner, Valerie, Barbara Lorz, Ulrike Hellerer, Martin Kantelehner, Horst Kessler, and Erich Sackmann. 2001. "Selective Adhesion of Endothelial Cells to Artificial Membranes with a Synthetic RGD-Lipopeptide." Chem. Eur. J. Vol. 7, No. 5, pp. 1095-1101.	<input type="checkbox"/>
10	Blight, Andrew R. November 2002. "Miracles and Molecules—Progress in Spinal Cord Repair." Nature Neuroscience Supplement. Vol. 5, pp. 1051-1054.	<input type="checkbox"/>
11	Rodger, Alison, Jascindra Rajendra, Rachel Marrington, Malin Ardhamar, Bengt Norden, Jonathan D. Hirst, Andrew T. B. Gilbert, Timothy R. Dafforn, David J. Halsall, Cheryl A. Woolhead, Colin Robinson, Teresa J. T. Pinheiro, Jurate Kazlauskaitė, Mark Seymour, Nluvis Perez, and Michael J. Hannon. 2002. "Flow Oriented Linear Dichroism to Probe Protein Orientation in Membrane Environments." Phys. Chem. Chem. Phys. Vol. 4, pp. 4051-4057.	<input type="checkbox"/>
12	Silva, G. A., K. L. Kehl, K. L. Niece, and S. I. Stupp. May 4, 2003. "Nanoeengineered Peptide Amphiphile Network for Photoreceptor Replacement in Degenerative Retinal Disorders." Investigative Ophthalmology & Visual Science. Abstract No. 492 from Annual Meeting of the Association for Research in Vision and Ophthalmology.	<input type="checkbox"/>
13	Brandenburg, Klaus, Frauke Wagner, Mareike Muller, Holger Heine, Jorg Andra, Michel H. J. Koch, Ulrich Zahringier, and Ulrich Seydel. 2003. "Physicochemical Characterization and Biological Activity of a Glycoglycerolipid from Mycoplasma fermentans." Eur. J. Biochem. Vol. 270, pp. 3271-3279.	<input type="checkbox"/>
14	Czeisler, C., V. M. Tysseling-Mattiace, G. A. Silva, S. I. Stupp, and J. A. Kessler. 2003. "Behavioral Improvement and Increased Survival Rate after Treatment with a Self Assembling Gel in a Rat Model of Spinal Cord Injury." 2003 Abstract Viewer/Itinerary Planner. Program No. 245.22. Washington, DC: Society for Neuroscience. Printed February 5, 2007. Page 1. <a href="http://sfn.scholarone.com/itin2003/main.html?new_page_id=126&amp;abstract_id=1554...">http://sfn.scholarone.com/itin2003/main.html?new_page_id=126&amp;abstract_id=1554...</a>	<input type="checkbox"/>
15	Schmidt, Christine E. and Jennie Baier Leach. 2003. "Neural Tissue Engineering: Strategies for Repair and Regeneration." Annu. Rev. Biomed. Eng. Vol. 5, pp. 293-347.	<input type="checkbox"/>
16	t' Hart, Bert A. and Sandra Amor. 2003. "The Use of Animal Models to Investigate the Pathogenesis of Neuroinflammatory Disorders of the Central Nervous System." Current Opinion in Neurology. Vol. 16, pp. 375-383.	<input type="checkbox"/>
17	Beniash, Elia, Jeffery D. Hartgerink, Hannah Storie, John C. Stendahl, and Samuel I. Stupp. 2005. "Self-Assembling Peptide Amphiphile Nanofiber Matrices for Cell Entrapment." Acta Biomaterialia. Vol. 1, pp. 387-397.	<input type="checkbox"/>
18	Hoke, Ahmet. August 2006. "Mechanisms of Disease: What Factors Limit the Success of Peripheral Nerve Regeneration in Humans?" Nature Clinical Practice Neurology. Vol. 2, No. 8, pp. 448-454.	<input type="checkbox"/>

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19	Kokkoli, Efrosini, Anastasia Mardikovich, Alison Wedekind, Emilie L. Rexeisen, Ashish Garg, and Jennifer A. Craig. 2006. "Self-Assembly and Applications of Biomimetic and Bioactive Peptide-Amphiphiles." Soft Matter. Vol. 2, pp. 1015-1024.	<input type="checkbox"/>
20	The LabRat.com, 2007, updated. Hank's Buffered Salt Solution (HBSS) Recipe. <a href="http://www.thelabrat.com/protocolsHanks.shtml">http://www.thelabrat.com/protocolsHanks.shtml</a> . Printed January 19, 2007. Pages 1-2.	<input type="checkbox"/>

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**EXAMINER SIGNATURE**

Examiner Signature	/David Lukton/	Date Considered	11/11/2009
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